

ROUTE from YARKAND to PEKING.—continued.

Number of Marches.	Names of Halting Places.	REMARKS.
	Lingu-shan-shan ..	1000 troops.
	Chi-chi-shu .. ..	No troops.
	Ti-ku-shan .. ..	Ditto.
	Ji-pu-shan .. ..	1000 soldiers.
	Shu-ku-shan .. ..	500 do.
	Wang-wu-kra-lu-ki-wun	No troops.
	Shu-ing-shan .. ..	1000 soldiers.
	Le-shi .. ..	None.
	Pangar-chu-chun ..	2000 soldiers.
	Bi-chi-yun .. ..	500 do.
	Chingarshun .. ..	1000 do.
	Khi-lash .. ..	1000 do.
	Wang-pu-chun .. ..	1000 do.
	Khu-chin-san .. ..	1000 do.
	Lu-shan .. ..	1000 do.
	Bar-wu-chun .. ..	2000 do.
	Wang-lung-shan ..	1000 do.
	Bar-man-chu .. ..	
	Chang-mang-ku ..	
	Li-nang-pu .. ..	1000 do.
	Anshu .. ..	A district.
	Bagshu .. ..	
	Ju-ju .. ..	Large town with 2000 soldiers.
	Lang-ku-shan .. ..	Ditto do.
		(Passports examined).
	Bajin .. ..	The city of Peking (from the frontier 91 marches).



2. *A Havildar's Journey through Chitral to Faizabad in 1870.* By Major T. G. MONTGOMERIE, R.E., F.R.G.S., Officiating Superintendent G. T. Survey of India, in charge of the Trans-Himalayan Exploring Parties.

[EXTRACTS.]

THE Trans-Himalayan and Trans-Frontier explorations were carried on during 1870 in various directions, in continuation of my general plan for systematically exploring all unknown or partially unknown countries beyond the British Frontier. One line of exploration from Peshawur direct to Faizabad, the capital of Badakshan, was brought to a successful conclusion, and will now be reported on.

I have long wished to clear up the geography of the mountainous tract lying between Caubul and Little Tibet which is bounded on the south by the Indus River and its great Caubul tributary, and on the north by the Hindoo-Koosh and Mustagh ranges. Though

draining into our territory, and though we have several routes actually going into it near Peshawur and again near Gilgit, our progress in clearing up the geography of this very difficult tract has hitherto been very slow, reliable work indeed, extending but a very little way beyond the border. This being the state of the case, it appeared to me that if a Route Survey could be carried right through the heart of the country, I should be able to get the correct positions of the larger places, and should, at the same time, be able to string together a large amount of detailed information which I have collected as to the minor tracts, valleys, &c., of the country, so as to form a fairly reliable map of the whole. With this object in view, I made various attempts to get a suitable agent from near the Peshawur frontier, and was fortunate enough to have a Pathan Sapper placed at my disposal, who was in every way qualified for the work. He was consequently carefully trained, and, after several preliminary trials, was started on an exploring expedition, with instructions to carry a Route Survey from Peshawur, through Swat and Chitral, to Badakshan.

Starting from Peshawur on the 12th of August, the party crossed into Swat by the Malakund Pass on a range which rises into peaks of 6000 to 7000 feet; reaching on the 15th, Alladand, the capital of the present ruler of Swat, a small, poorly built town of 300 houses. The next day, at a mile and a half north of Alladand, they reached the Swat River, a very large stream, which they crossed on rafts: continuing their march, the same day they ascended the opposite mountains, and by an easy pass crossed over the Lurum Mountains into the Talash district, and descending to the Punjkora River, crossed it on the 17th; this river appeared to be even larger than the Swat River. From the Punjkora River they marched on through Jundul, the largest district of Bajaur, reaching, on the 18th August, Miankilai, the chief town of Jundul, and the capital, in fact, of the province. Thence passing into the Dir district, they arrived on the 23rd of August at Dir itself, which the Sapper reports as being a small town of about 400 houses.

So far the Sapper had made his way as an ordinary traveller; but from Dir to Chitral the road is infested by Kafirs, and it was consequently necessary to make some other arrangements, in order to have a chance of a safe transit across this dangerous tract. Traders are in the habit of halting at Dir or Chitral until a large number collect, in order that they may all start together. Sometimes as many as 200 start at the same time; but, in spite of this and other precautions, the travellers are frequently attacked by the Kafirs, and many are killed. Those of the travellers who fall are buried



by the side of the road, mounds surmounted by a flag marking their graves: these are called the tombs of the martyrs. The Sapper saw hundreds of these, anything but reassuring, memorials on the way between Dir and Chitral.

On arriving at Dir they were much disappointed to find that all the traders for the northern route had already left, and that there was nothing for it but to make a special arrangement for their party by itself. In this dilemma, the Sapper presented himself before Ramatoolah Khan, the chief of Dir, and asked for assistance. Ramatoolah Khan questioned him as to the object of his journey, &c., and was fortunately satisfied with the answers he got.

The Sapper then placed a handsome gold-laced scarf by the chief and pointing out that as all the traders had already started, it would be simple madness for his small party to go by itself, he begged that the chief would kindly send an escort with them; after some hesitation the chief consented, and gave the necessary orders. The party accordingly resumed its march, and, on reaching the village of Kashgarai, found an escort of 25 armed men awaiting them. The next day they reached Gujor, and then crossing the Lahori Pass, close to mountains of 14,000 feet and upwards, they, after a very trying march, reached the village of Ashreth. Here, in spite of their escort, they were much troubled by the Kafirs, who swarm in and about the village; the inhabitants pampering them, so as to escape being more openly plundered. During the night, an incessant discharge of small arms was kept up on the Sapper's party, who returned the fire, but, owing to the darkness, there was no damage done on either side, as far as was known. The next day they resumed their march, being glad to get safely out of Ashreth. Their escort accompanied them down to the Koonur River, and finally parted from them at the village of Galatak, in the Chitral district, where an escort was no longer necessary. From thence they made their way up the Koonur River to Chitral, crossing one very large tributary called the Shushidurra, which joins in on the left or eastern bank. On the road near Brary, on the 30th August, the Sapper first heard a report of the murder of poor Mr. Hayward. The report was, that a saheb by name "Hawel," who had travelled from Kashmir to Chitral, and whose intention was to have gone thence into Badakshan, had been murdered at a place called Ooshgoom, (distant about seven days' journey north-east of Chitral), by the order of Mir Walli of Ooshgoom, son of the late Goraman of Yassin. The saheb was said to have been accompanied by eight servants, one of whom alone escaped, though not without some wounds, the other seven being all killed. After the saheb was murdered, some 700

tillahs, or gold pieces (about 6 rupees each in value) were found and taken by the murderers, along with his clothes, guns, pistols, his watch, books, and a variety of other property.

On the 31st of August the party reached Chitral, where their first transaction with the Chitral chief was an attempt on his part, through his Wazir, to make them exchange a portion of their goods at his valuation. The Sapper had an interview the next day with the chief, who is styled Badshah by the people thereabouts, but it was to no purpose; so there was nothing for it but to submit to the imposition.

Starting from Chitral on the 5th of September, they continued their journey to the north. Leaving the main Koonur River on their right, and ascending a large side stream, they, after some delay, reached the base of the lofty Nuksan Mountain by noon on the 15th of September, and the same afternoon accomplished about half the ascent. The climate was very trying, partly on account of the steepness and partly on account of the snow. Their camp was, of course, a most uncomfortable one; but they were not able to enjoy long, such small comfort as was to be got there, for it was necessary to be off by 3 o'clock the next morning, so as to clear the pass before the Kafirs met them—the road near the pass being dangerous, owing to strong bands of those robbers who are always on the look out for the chance of plunder. After a very stiff climb the party reached the crest of the pass, crossing large beds of snow and immense masses of ice; the road for a distance of 400 or 500 paces being literally cut through the ice to a depth of from 6 to as much as 12 feet. Every here and there the ice was fissured with vast cracks, which the travellers avoided with the greatest care.

The Sapper had never been on any snowy mountains before; but this account leaves no doubt in my mind that this part of the so-called Hindoo-Koosh range, at any rate, boasts of one glacier, the vast cracks, or in other words the crevasses, being quite unmistakable, as they never occur in an ordinary snow-bed. As the mountains on either side of the pass rise considerably above it, the probability is that there are numerous glaciers in the neighbourhood. The above is the first evidence that we have as to there being any glaciers in the Hindoo-Koosh; nothing of the kind having been noted between Bamian and Pamir Kul, the most easterly point visited by the Mirza.

Having crossed the pass they descended rapidly, and, after a very hard march, reached Daigul, the first village of Badakshan, and on the 18th September made their way to Zebak, on the Kokcha River, the same group of villages that the Mirza passed through in the

previous year, thus completing a junction and connecting the two Route Surveys together. From Zebak they went down the Kokcha River, by much the same route that the Mirza ascended, reaching Faizabad, the capital of Badakshan, on the 25th of September.

The Sapper found that Jehandar Shah, the Mir or ruler who held Badakshan when the Mirza was there, had been supplanted by Mahmood Shah, who was assisted by the Amir of Caubul. The party had instructions to advance still farther north across the Oxus, and they tried to arrange for so doing, but could not, because the road in that direction was strictly closed by the orders of the Amir Sher Ali, who suspected that letters were sent by that route to Abdul Rahman Khan, by his supporters in Caubul.

Whilst in Faizabad, the Havildar witnessed the fate of a man upon whom some such letters were found. The unfortunate wretch was thrown from a lofty bridge down into the rapid stream of the Kokcha, and, though not killed on the spot, he died a few days afterwards from injuries received by being dashed against the boulders which protrude from the water in every direction. This is a favourite mode of execution in Badakshan, and was noted by Wood when he passed through the country.

Being able to devise no immediate means of advancing to the north, the Sapper, according to his instructions, prepared to return. Starting on the 27th of October, his party reached Zebak on the 31st of October, where they witnessed a meeting between the rulers of Badakshan and Chitral. On the 3rd of November they left, with a party of traders accompanying Mir Walli, the murderer of Mr. Hayward, who had come into Zebak with the Chitral chief. Whilst there the scoundrel Mir Walli had his leg broken between the knee and the ankle by the kick of a horse, and when the Sapper saw him was in great pain with it, the bone never having been allowed to set.

From Zebak it was necessary for the party to take a different route from that by which they crossed the Hindoo-Koosh on their upward journey—the lofty Nuksan Pass being already closed, owing to the lateness of the season. The traders said the only chance was to try the Dora Pass to the west, which was somewhat less difficult, though less used, owing to its running through a part of Kafiristan and to its consequently being always infested by strong bands of Kafirs. The traders, however, having Mir Walli's escort and being in considerable numbers themselves, thought they might risk the passage; they therefore marched on, taking the more westerly of the two streams, which, coming from the south, join at Zebak. The first day they reached Sanglech, where the cold was so intense (though



it was only the 3rd of November) that the stream which flows past that village in a steep bed was already frozen hard. The next day they advanced to another village, also called Sanglech, and here two of the Sapper's servants deserted, being afraid to face the intense cold expected on the Dora Pass; the Sapper, however, resolved to go on with his diminished party. On the 5th they encamped in a desolate place at the foot of the Dora Pass; here they had to be very vigilant, so as not to be surprised by the Kafirs, who are thereabouts more especially troublesome. By good arrangements they escaped an attack, and the next day they succeeded in crossing the Dora Pass, the road appearing to the Sapper to be even worse than the Nuksan Pass; this he thinks was in part due to the lateness of the season. He says he never in his life experienced such hardship as he did on those two stages. The combined effect of the intense cold, the high cutting wind that prevailed, the fact of being deserted by two servants, and the anxiety owing to threatened attacks by the Kafirs, made them feel the height of misery, the more especially as from the 6th, when they passed the crest of the Dora Pass, till the 7th of November, when they reached Lotko, in the Chitral province, it was snowing hard. From thence they marched on to Shogoth, thus joining in to their former route. The Chitral chief caught them up and passed them on the way, and thinking he had a good opportunity, he ordered an extra toll to be taken from the traders; they, however, refused to leave Shogoth, and held out there six days, till they at last got better terms. The Sapper, with them, reached Chitral on the 16th of November; on the 17th he again presented himself to the Badshah, who now, however, looked coldly on him, saying that he had heard he was in the employ of the English. The Sapper, however, was nothing daunted, and requested that he might have a pass for his return: the chief, though convinced he had heard a true account as to the Sapper, thought it as well not to interfere with him and his party, and so gave the necessary order. The Sapper said when he left, Mir Walli was still in great agony from his broken leg, and as he could actually hear the bone grating when he moved, and it was then more than a month since it was fractured, there is little doubt but that this scoundrel may hereafter be recognised by his lameness, which is likely to be permanent, and which may yet perhaps assist in bringing him to justice and to the fate he so richly deserves.

Having completed his arrangements, the Sapper marched back by much the same route as he had advanced, reaching Peshawur on the 13th of December, having again passed safely through the corner of Kafiristan, between Chitral and Dir, and not a little glad to think

that neither he nor any of his men had added another mound to the tombs of the many Mahomedan martyrs who have fallen on that road.

His Route Survey is 286 miles in length, over entirely new ground which has never before been surveyed by an explorer, though, no doubt, other natives may have passed over the whole length. The route touches upon a great number of districts, and determines, with all desirable accuracy, a number of important places. It accounts for the geography of about 13,000 square miles of this *terra incognita*, and will aid in unravelling the geography of a still greater area. The route is checked by 20 latitude observations at five places. The boiling-point observations are very meagre—the Sapper not quite appreciating their importance, this being his first expedition. He moreover says he wished to boil on the passes, but was unable to do so without risk of detection, except on the Nuksan Pass, where, unfortunately, he could find no wood, being far above the limits of forests. From the glacier and the amount of snow in September, as well as other evidence, I conclude the Nuksan Pass to be above 17,000 feet; that of Dora may be 16,000 to 16,500.

The position of Chitral has always been a great desideratum, and, as it is so immediately north of Peshawur, it may be concluded that it has been very satisfactorily determined, as any error in the distances could but very slightly affect its longitude, while its latitude is thoroughly established by three astronomical observations, which agree very fairly *inter se*; the Sapper having shown by his observations for Peshawur and for Faizabad that he understands taking latitudes—those at the latter place agreeing very closely with Wood and the Mirza.

Altogether the Sapper's work has satisfactorily stood the tests applied; he has moreover fixed a number of peaks by bearings, and though mostly rather close to his route, they will aid in solving the geography of the surrounding mountains.

In my opinion, the Sapper deserves all credit for his great pluck and endurance as well as for the discretion with which he penetrated through such a difficult country, without, I believe, getting into a single disturbance with the people of any of the districts he traversed, though constantly bullied by requests for legal and illegal tolls which were made at most places. I am convinced, moreover, that his undaunted bearing on his return journey, when the chief had guessed his secret, was the means of preventing himself and party from being sold into slavery, or possibly from a worse fate; the wily chief probably thinking that his co-religionist who showed such a bold front did so because he was backed by something more than the few men he had with him.

Colonel J. T. WALKER, R.E., said the advantages of these explorations consisted in their furnishing portions of a framework within which all the different physical features of the country would be subsequently fitted. This was the great desideratum in Central Asian geography. The red lines prominently marked on the great map of Central Asia which was exhibited to the Meeting, indicated the course of these explorations, so far as they had been carried out hitherto; and it would be noticed that from the River Indus and the north-western frontier of the territory subject to the Maharajah of Cashmere—which had been regularly surveyed by British officers—up to the vicinity of the mountain passes above Canbul, there was but one continuous route survey through the regions on the south of the Hindoo-Koosh range, namely that now furnished by the Havildar in the course of his explorations; for the unfortunate Mr. Hayward had only penetrated a short distance into this country when he was murdered. Hitherto, although we have had numerous descriptions of the geography of portions of the country, we have had no means of fitting the details together. We had also determined a number of trigonometrical points on the hill ranges in this country, but these points were all fixed at such great distances from the stations of observation that it was impossible to identify them or ascertain the localities to which they appertained. Intervening ranges cutting them off from view at the nearest points of British territory, it became necessary to descend to the southern part of the Peshawur Valley to find stations whence they could be observed, though at distances of 60 to 100 miles. Thus, though we possessed accurate determinations of the positions and heights of a great number of mountain peaks, yet they were insufficient for the basis of a map, until we were able to send some one into the country to explore it, and to fix the positions of important points—as, for instance, Chitral—with reference to the mountains which had been trigonometrically fixed: when this combination of work was done, a fairly accurate map might be produced, and every additional route survey would add precision to our geographical information, as well as increase its amount. To get men to make these explorations was a very difficult task. We began with the well-known Pundits, who had since retired from the work; then we had the Mirza, and he had given it up; and lastly we have had the Havildar Pathan, and probably we should hear nothing more of him. After receiving a good reward, these men liked to go to their homes, and live in peace for the rest of their lives. The consequence was that exploring went on very slowly. We have to get a fresh man each time, and train him for the work,—and this occupied some considerable time; and some of those trained were found eventually to be unfit for the work, and had to be got rid of. The Havildar's determination of the height of Chitral as only a little over 7000 feet was a remarkable fact in the physical geography of this region. Considering that the only peaks in the Hindoo-Koosh range whose heights have been determined hitherto are from 22,000 to 28,000 feet high, the fact that Chitral, though situated within a short distance of the range, is only 7000 feet high, is very remarkable, and at first seemed very questionable, until it was noticed that Mr. Hayward had found Yassin—which is situated at nearly the same distance from the watershed of the Hindoo-Koosh—to be only 7700 feet high. It seems probable, therefore, that in this portion of the range the watershed is considerably depressed. As our knowledge of the geography of this country improved, we should probably find that the system of mountain chains, as represented in our maps, would require great alteration; that the dark range now representing the watershed would be found much lower than is now supposed, and that the higher ranges were to the south of it.

The PRESIDENT said it was a new idea to him that the outer range of the watershed should be lower than the inner range. He had always been under the impression that the watershed between the Oxus and the Indus was the



culminating ridge. He saw that several points just within the Dora Pass had been trigonometrically fixed at 16,500 feet.

Colonel WALKER said that these points were on an outer range, not on the main watershed, which was hidden from view by the outer range, so that it had not been possible to fix any trigonometrical points on this portion of the watershed.

The PRESIDENT said there was no doubt that the great range, which we called the Indian Caucasus, decreased in height as it stretched to the westward. The mountains north of Cabúl were not so high as those to the north of Chitrál. It was quite possible that the crest which the Havildar traversed might be lower than that further south. Still it was a point he should like to have verified: because glaciers certainly did exist on that watershed, the Chitrál River itself coming out of a glacier. Geographers, indeed, would remember that Macartney, sixty years ago, laid down a glacier on the north side of the range, from which the head-waters of the Oxus flowed; but he (the President) had never heard of glaciers south of Chitrál. The Havildar's journey was exceedingly important, because he was the first man who had determined the position of the Chitrál Valley astronomically. He seemed indeed to be a most remarkable man. Major Montgomerie, in a private letter to him (the President) had mentioned that the Havildar, on his return-journey, went into the presence of Amán-el-Múlk and Mir Walí, convinced that he would never come out alive; but he kept his hand on a loaded revolver in his pocket throughout the interview, with the full determination, should a signal be given to seize him, to despatch both of these redoubtable chiefs before yielding. He had presence of mind, however, to carry on the conversation with perfect calmness, and was ultimately allowed to come out in safety. He (the President) only hoped the Havildar would not retire from the work of surveying. He was pleased to hear that Major Montgomerie was training up other native explorers in the same field; for we looked to them, and to them only, to clear up those geographical problems that were still perplexing us beyond our frontiers, in regions that were inaccessible to British officers. Before closing his remarks, he wished to call attention to the gradual approach of Russia to the northernmost frontiers of India. They were now in possession of the province of Dzungaria, holding it vicariously for the Chinese, who, however, he should think, were not likely very soon to resume the occupation of their territory. At the same time, the Russians were doing good service, geographically, by extending our knowledge of Central Asia. Their frontier, at one point near Artúsh, was within 300 miles of the extreme limit determined by Colonel Walker's survey. So that it was possible, in fact probable, that, in a short time, triangulation would be carried across the interval; in which case we should have a continuous series of triangles from Cape Comorin to Siberia, across the entire continent of Asia.

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### 3. *Route from Shiraz to Bam.* By MAJOR B. LOVETT, R.E.

[EXTRACTS.]

THERE are several roads that run between Shiraz and Kerman. The road I took leaves the Shiraz Valley to the north-east, passing by the Bagh-i-Dilkhusha and Saadi's tomb; and as far as the town of Niriz, is a very fair road, so that carts could proceed along it without the slightest difficulty. After arriving at Dodeh, our first stage, I found the road to Niriz lay in the Persepolis Valley, as